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## NEPNY—64—2023

### FACULTY OF SCIENCE AND TECHNOLOGY

#### M.Sc. (NEP) (First Year) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

BOTANY

Paper SBOTE-401

(Bioinstrumentation and Methods in Biology)

**(Thursday, 28-12-2023)**

**Time : 10.00 a.m. to 12.30 p.m.**

*Time—2½ Hours*

*Maximum Marks—60*

*N.B. :—* (i) Question No. 1 is compulsory.

(ii) Of the remaining, attempt any *three* questions.

(iii) Draw neat and well labelled diagrams wherever necessary.

1. Write brief notes on any *three* :

15

(a) Applications of simple microscope

(b) Hot air oven

(c) Uses of radioisotopes in life sciences

(d) Ultracentrifuge.

P.T.O.

2. Write in brief on :

- (a) Working and applications of phase contrast microscope. 8
- (b) Microtomy. 7

3. Describe in brief on :

- (a) Principle, working and application of autoclave. 8
- (b) Principle, working and applications of incubator. 7

4. Write in brief on :

- (a) Principle and techniques of UV-visible spectrophotometer. 8
- (b) Atomic absorption spectrometry. 7

5. Explain in brief :

- (a) Gel agarose electrophoresis. 8
- (b) Principle and application of centrifugation techniques. 7

6. Write brief notes on any *three* : 15

- (a) Hazards and waste disposal
- (b) Laminar air flow
- (c) Half life of isotopes
- (d) AFLP technique.